Remarks/Arguments

Amendments to the claims:

The claims have been amended to clarify the nature of the product of the reaction of the diazonium specie with the carbon nanotubes. In a telephone interview with the Examiner it was clarified that the diazonium coupling with carbon nanotubes involves the loss of nitrogen from the diazonium specie and the formation of a reactive species that is capable of reacting at the sidewalls as well as the end caps of the carbon nanotube. Support for the reaction at non-defect sites of the sidewalls appears in various experimental characterizations, for example, on page 11, lines 17-20, there is a discussion of the electronic perturbation caused by disruption of the extended pi network (i.e. non defect sites) of the carbon nanotube, consistent with covalent attachment to the carbon nanotube sidewalls and end caps.

Claim 68, in particular, has been amended to put it in proper form for a product by process claim by reciting process steps.

Support for new claim 131 can be found in lines 1-2 on page 3 and in various TGA analyses, including for example, on page 16, lines 30-32.

No new matter has been introduced by way of amendments made to the claims.

For completeness, the response filed in response to the office action of May 15, is repeated hereinbelow:

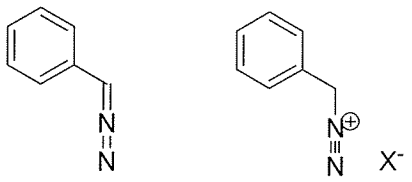
I. Applicants responds to Examiner's 35 U.S.C. § 103(a) rejections of Claims 36-68, 88-93, and 130 by amendment and traversal

The Examiner holds that Claims 36-68, 88-93, and 130 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Ruoff, *et al.* (U.S. Patent 5,547,748) (hereinafter "*Ruoff*"). Applicants respectfully traverse the rejections.

Applicants disclose a product by process and compositions in which carbon nanotubes are derivatized by a diazonium specie.

The Examiner states that Ruoff teaches nanomaterials functionalized by diazonium groups.

Ruoff does not teach carbon nanotubes nor a diazonium specie. Ruoff teaches **diazoalkanes** (col. 8, line 60) which are a completely different functional group as shown in the exemplary Lewis structures below:



diazo diazonium

Note that the diazo compound is a neutral compound (having nucleophilic character at the benzylic carbon in this example) whereas a diazonium specie is part of a salt where X^- represents a counter anion (having electrophilic character at the analogous benzylic carbon). Thus, the reactivity of these two functional groups is completely different.

Regarding rejections under 35 U.S.C. § 103(a), to establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art and not based on applicant's disclosure. *See* M.P.E.P. § 706.02(j); *see also In re Vaeck*, 947 F.2d 488, 20 U.S.P.Q.2d 1438 (Fed. Cir. 1991).

Applicant submits that Ruoff does not teach **any** of the claim limitations, neither nanotubes nor a diazonium specie and has thus not met the burden of establishing a prima facie case of obviousness.

Conclusion

No new matter has been added. Applicant respectfully submits that Claims 36-68, 88-93, and 131 as they now stand are patentably distinct over the art cited.

If additional fees are due and are not included, the Director is hereby authorized to charge any fees or credit any overpayment to Deposit Account Number 23-2426 of WINSTEAD PC (referencing matter 11321-P022WUD1).

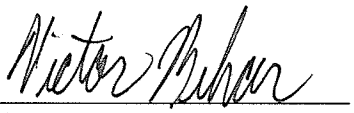
If the Examiner has any questions or comments concerning this paper or the present application in general, the Examiner is invited to call the undersigned at 713-650-2764.

Respectfully submitted,

WINSTEAD PC

Attorneys/Agents for Applicant

Date: September 13, 2007

By: 

Robert C. Shaddox
Reg. No. 34,011
Sarah S. Bittner, Ph.D.
Reg. No. 47,426
Victor Behar, Ph.D.
Reg. No. 60,691

P. O. Box 50748
Dallas, Texas 75201
Tel: 713.650.2764
Fax: 214.745.5390